EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 07080815
PUBLICATION DATE : 28-03-95

APPLICATION DATE : 10-09-93
APPLICATION NUMBER : 05248488

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INT.CL. : B28B 3/02 B22D 19/14 C22C 1/09 D01F 9/08

TITLE : FIBER MOLDED PIECE FOR REINFORCED METAL AND PRODUCTION THEREOF

ABSTRACT : PURPOSE: To obtain a small molded piece of a high dimensional accuracy and a solid molded piece of a high strength and a high rate of voids.

CONSTITUTION: In a method for producing a fiber molded piece for a reinforced metal, a mixture containing one or more kinds of 0.01-3mm long inorganic short fibers selected out of aluminosilicate fibers, mullite whiskers, and aluminum borate whiskers and one or more binders selected from a colloidal alumina, a colloidal silica, and a colloidal zirconium and having a water content of 5-25wt.% is pressure molded, thereafter being heated to be dewatered. A fiber molded piece for a reinforced metal is made of 0.01-3mm long inorganic short fibers similarly selected out of aluminosilicate fibers, mullite whiskers, and aluminum borate whiskers and binders similarly selected out of a colloidal alumina, a colloidal silica, and a coloidal zirconium and has a rate of voids of 60-95%.

XP-002218835

AN - 1995-158336 [21]
AP - JP19930248488 19930910; [Previous Publ. JP7080815] ; JP19930248488 19930910
CPY - TMON
DC - L02 M22 P53 P64
DR - 1544-U 1694-U
FS - CPI;GMPI
IC - B22D19/14 ; B28B3/02 ; C22C1/09 ; C22C49/00 ; D01F9/08
MC - L02-B08 L02-J01D M22-G03K
PA - (TMON) TOSHIBA MONOFRAX KK
PN - JP3171287B2 B2 20010528 DW200132 B28B3/02 004pp
- JP7080815 A 19950328 DW199521 B28B3/02 006pp
PR - JP19930248488 19930910
XA - C1995-073026
XIC - B22D-019/14 ; B28B-003/02 ; C22C-001/09 ; C22C-049/00 ; D01F-009/08
XP - N1995-124528
AB - J07080815 A mixture (5-25 wt.% of water content) comprising one or more of inorganic short fibre (0.01-3mm long) alumi silicate fibre, mulite whisker and aluminium borate whisker, one or more of binder of colloidal alumina, colloidal silica and colloidal zirconium is compression moulded and heated to dehydrate. Fibre moulding for reinforced metal with 60-95% of void content is given.
- USE/ADVANTAGE - Light alloy cast is filled with the reinforcing fibre mouldings and compounded into fibre reinforced metal. The reinforced metal is used at moving site of machines. Relatively smaller mouldings with dimensional stability are easily produced. The mouldings are strong and have high void content. The reinforced metal has abrasion resistance and does not give damage against the other material. The reinforced metal is light and has specific strength. In an example 100 pts. wt. of aluminium borate whisker and 15 pts. wt. 10% alumina sol solution were mixed. The mixt. was filled in a mould and compression moulded at 50-100 kgf/square cm. Dried and heated at 1200 deg.C for 3 hrs.. The obtd. fibre moulding had 90% void volume and 4.6 kgf/square cm compressive strength.(Dwg.0/0)
IW - FIBRE MOULD REINFORCED METAL OBTAIN COMPRESS MOULD MIXTURE INORGANIC SHORT FIBRE COLLOID BIND HEAT DEHYDRATE
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NC - 001
OPD - 1993-09-10
ORD - 1995-03-28
PAW - (TMON) TOSHIBA MONOFRAX KK
TI - Fibre moulding for reinforced metal and - obtd. by compression moulding mixt. or inorganic short fibre and colloidal binder and heating to dehydrate